

No. 645,916.

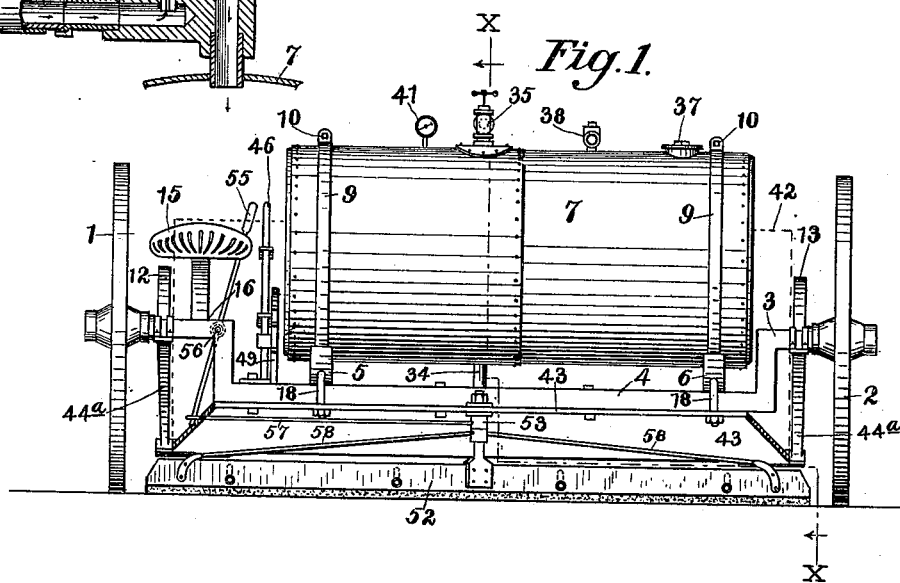
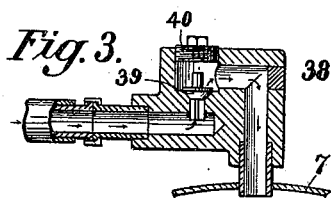
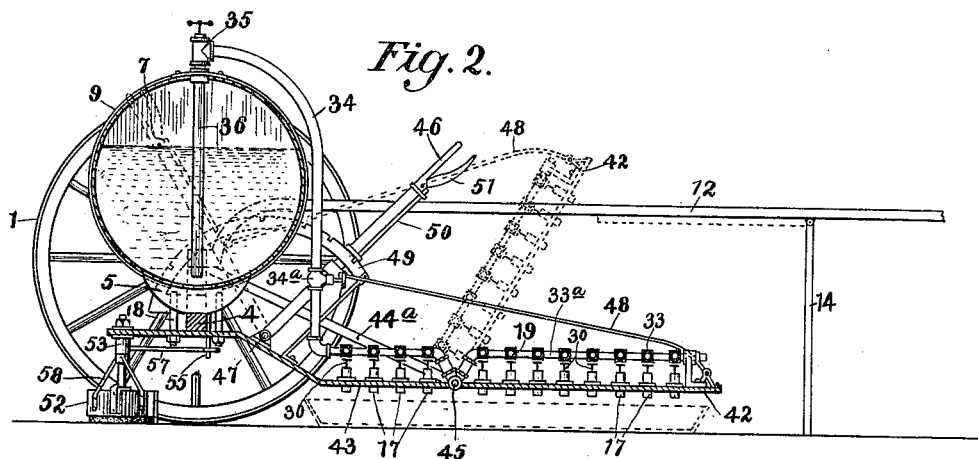
Patented Mar. 20, 1900.

C. F. GETLER & C. J. POWER.
SNOW MELTING MACHINE.

(Application filed Mar. 22, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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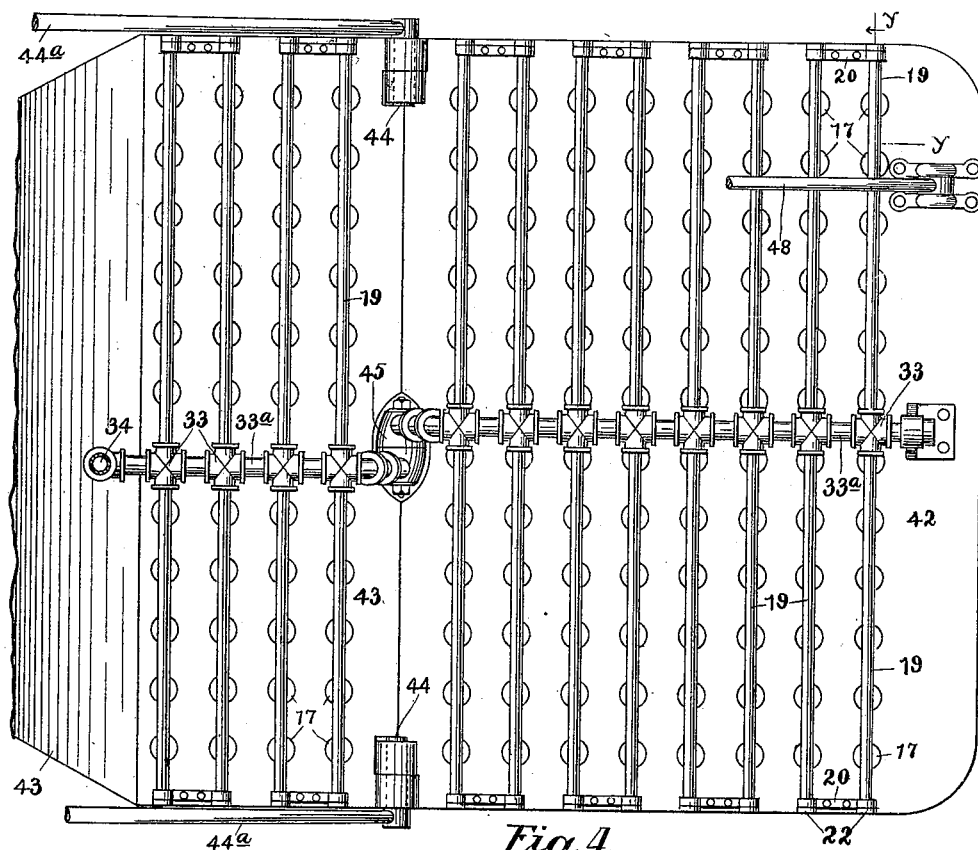


Fig. 4.

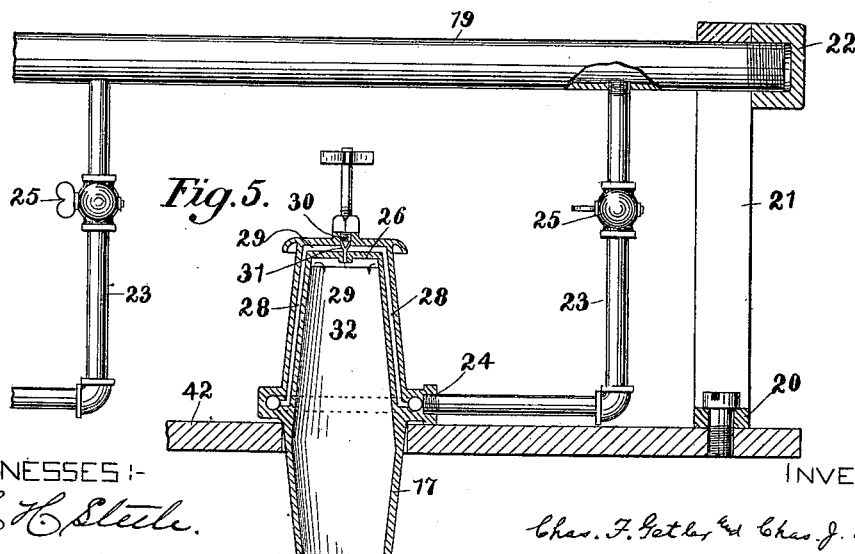


Fig. 5.

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UNITED STATES PATENT OFFICE.

CHARLES F. GETLER AND CHARLES J. POWER, OF MATTEAWAN, NEW YORK;
ASSIGNORS OF TWO-THIRDS TO JOHN L. HALL, OF SAME PLACE.

SNOW-MELTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,916, dated March 20, 1900.

Application filed March 22, 1899. Serial No. 710,028. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. GETLER and CHARLES J. POWER, citizens of the United States, and residents of Matteawan, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Snow-Melting Machines, of which the following is a specification.

The object of our invention is to provide means for rapidly removing snow from thoroughfares by melting it, thus avoiding the trouble and expense heretofore caused by carting away the snow.

By the use of our invention a street may be cleared of snow in a short time and without the impediment to traffic occasioned by the presence of numerous trucks, &c., heretofore employed for the purpose.

To this end our invention consists in the various features of construction and combinations of devices, all as hereinafter described, and particularly set forth in the appended claims.

In the accompanying drawings, Figure 1 illustrates our snow-melting machine, viewed from the rear. Fig. 2 presents a sectional longitudinal elevation taken at about the line X X, Fig. 1. Fig. 3 is an enlarged sectional view showing the construction of valve through which air (or fuel-gas) may be forced into the reservoir. Fig. 4 is a plan of the heater, enlarged, showing the arrangement of the feed-pipes and burners; and Fig. 5 is an enlarged sectional view of one style of burner, taken at about line Y Y, Fig. 4.

Throughout these several views like numerals will be found to designate like parts.

The drawings and description cover our preferred construction; but it is not our intention to limit ourselves to the precise details given.

Between a pair of road-wheels 1 2 is supported an axletree 3, a portion of which has a U-shaped bend or depression, as 4, upon which are bolted a pair of bolsters 5 6, which support a cylindrical tank or fuel-reservoir 7, that is secured to the bolsters by means of hoops 9, each hoop being made fast to a bolster and having its ends drawn together at the top of the reservoir by a bolt 10. The

reservoir may, however, be otherwise mounted and secured. Thills 12 13 are secured to the axletree and extended forwardly a sufficient distance to permit the horse to stand well in advance of the heater. A leg 14 may be provided for one or both thills to be used as a temporary support, but capable of being swung up out of the way, as indicated in dotted lines at Fig. 2. A driver's seat 15 is secured to the axletree at 16. A series of inverted burners 17 are carried by a platform near the ground and extending forwardly of the reservoir, between the thills. The platform at its rear end is secured to the under side of the axletree by the same bolts 18 that fasten the bolsters to the axletree. Extending across the platform, one above each row of burners, is a series of feed-pipes 19, for which are provided suitable end supports or brackets 20. In the example shown each support consists of a U-shaped strip secured to the platform and having the top of each of its legs 21 bent around a pipe, which is secured by a hollow closed end nut or cap 22. The transverse feed-pipes 19 are tapped by separate small vertically-arranged elbow-pipes 23, one for each burner, and entering the burner horizontally, as at 24. The connecting pipe or pipes 23 may be provided with a valve 25.

The burner illustrated at Fig. 5 is of a well-known type. The top of the burner has a cross-piece 26 at the center, leaving air-openings on each side thereof. From the admission-point 24 suitable passages 28 extend to the top of the burner to a passage-way 29 in the cross-piece. A screw-valve 30, adapted to a conical seat 31 in the cross-piece, permits nice regulations of the admission of fuel to the combustion-chamber 32.

The transverse feed-pipes 19 are all connected at their inner ends to four-way couplings 33, which are connected together by a series of longitudinally-arranged short couplings 33^a, and these couplings, taken together, may be considered as a main feed-pipe, which at its rear end turns upwardly and is bent rearwardly at 34 to a connection with the reservoir feed-valve 35. A separate valve 34^a is provided in the vertical portion of the main feed-pipe. The reservoir-valve 35 is ar-

ranged at the top of a vertical tube 36, Fig. 2, which extends nearly to the bottom of the reservoir.

At the right-hand end of the reservoir is arranged a cap 37, which may be removed to allow the admission of gasoline. The reservoir is provided also with an air-admission device 38. (Shown in section at Fig. 3.) The valve 39, of well-known construction, permits air to be forced into the tank, but prevents its escape. A screw-tap 40 is arranged above the valve to limit the upward movement thereof and serves also as a provision for inspection and repair of the valve, which is readily accessible when the cap is removed. A pressure-gage 41 is also provided at the top of the reservoir.

The burner-platform consists, preferably, of a hinged forward portion or flap 42 and a rigid rear portion 43, having an upward and backward bend and extending horizontally beneath the axletree and fastened thereto, as already described. The flap portion 42 is hinged to the rigid platform at 44, and in order to permit the free movement of the flap the main feed-pipe 33 is provided with a hinge-coupling 45, concentric with the hinge 44. On each side a stay 44^a is secured at its rear end to the axletree and at its front end to the joint 44.

For raising the flap a hand-lever 46 is hinged at 47 to the bent portion of the rigid platform and arranged in proximity to the driver's seat. A link 48, pivoted at one end to the lever and at the other end to the flap, enables the driver to move the flap or swinging platform at will. When the lever is thrown fully back, the parts assume the position shown in dotted lines at Fig. 2. The raised position of the flap is also indicated by dotted lines at Fig. 1. For securing the flap at any desired elevation a quadrant 49 is employed, in which several notches are cut, with any of which may engage the bolt 50, arranged on the lever 44 and controlled by a small pivoted handle or lever 51.

A suitable scraper 52 has at its middle a vertical pivot or swivel 53, which is mounted on the rearwardly-extended portion of the rigid platform, and said scraper is provided at its lower edge with a flexible strip, preferably rubber, extending the entire length of the scraper. To take up wear, this strip may be made adjustable vertically by means of bolts secured in the scraper and passing through slots in the rubber. The slots may be provided with sheet-metal bindings or frames riveted to the rubber. For controlling the position of the scraper a lever 55 is pivoted at 56 to the axletree and at its lower end is connected by a horizontal link 57 to the pivot of the scraper, which may be provided with brace-rods 58.

In operation the cap 37 is removed and the reservoir is filled with gasoline up to about two-thirds of its capacity, when the cap is fastened on again. By any suitable pump air is

forced into the reservoir, as indicated by the arrows at Fig. 3, until a suitable pressure is obtained. Then the pump is removed, and the pressure within the reservoir holds the valve 39 in its seat, preventing escape of the air. All of the small valves are then opened. A large pan is placed temporarily beneath the platform, as indicated by dotted lines in Fig. 2. Some gasoline is placed in this pan and ignited, so as to heat the burners. When they have become sufficiently heated, the valves 35 and 34^a are opened, and the air-pressure in the tank forces the gasoline through the main feed-pipe, the cross feed-pipes 19, and the elbow-pipes 23 into the burners. The fuel after entering the burner at 24 is forced up the passages 28 to the top of the burner, whence its passage into the combustion-chamber can be regulated by the valve 30. Air passes into the combustion-chamber through the passages in the top of the burner, as indicated by the arrows, and mingles with the gasoline in the chamber of the burner in a well-known manner. When the large pan has been removed, the mixture of gasoline and air in the burners is ignited, and the flames rush downwardly out of the mouths of the burners, the resulting heat being sufficiently intense to melt all the snow in the path of the burners, while the vehicle is being propelled at a moderate rate of speed.

The flap 42 of the heater may be elevated to different angles, as required by varying depths of snow. The scraper 52 serves to divert the resulting water sidewise toward the gutter. It may be adjusted by the handle 55 to sweep the water toward the right or toward the left, as required.

The burners may be arranged in oblique lines in the platform, so as to cover in succession every portion of the snow and leave no unmelted portions, or the burners may be set in the holes in the platform, so as to direct their flames at varying angles for the same purpose.

Many other modifications in construction and arrangement may be made within the scope of the several portions of our invention.

What we claim as new, and desire to secure by Letters Patent, is—

1. A vehicle having a burner-platform, pivoted at its rear end, whereby it may be swung up so as to melt the snow in advance, and having also a burner-platform arranged in rear of the pivoted platform, and constructed to melt the snow beneath as the vehicle is moved along.

2. A snow-melting vehicle having at its front side a burner-platform and at its rear side a swiveled adjustable scraper for directing the flow of water to either side of the vehicle as it advances.

3. A snow-melting vehicle having at its front side a burner-platform and at its rear side a swiveled adjustable scraper, and a lever for adjusting the same.

4. The combination of a wheeled vehicle,
a fuel-reservoir mounted thereon, a rigid
burner-platform attached to said vehicle, a
second burner-platform hinged to and in ad-
5 vance of the rigid one, and means for feed-
ing the burners of both platforms from the
fuel-reservoir.

Signed at Matteawan, in the county of

Dutchess and State of New York, this 17th
day of March, A. D. 1899.

CHARLES F. GETLER.
CHARLES J. POWER.

Witnesses:

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ABBIE WHITSON.